UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/943,988 | 08/31/2001 | James Grey | 5150-50000 | 1368 |

35690 7590 05/12/2004

MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C.
P.O. BOX 398
AUSTIN, TX 78767-0398

| EXAMINER | |
|---|---|
| DUNCAN, MARC M | |
| **ART UNIT** | **PAPER NUMBER** |
| 2113 | |

DATE MAILED: 05/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/943,988 | GREY, JAMES | |
| | Examiner | Art Unit | |
| | Marc M Duncan | 2113 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *31 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *38-40,44 and 45* is/are allowed.

6)☒ Claim(s) *1,2,4,5,8-10,12,13,15,18,19,21,22,25,27-29,31,32 and 41-43* is/are rejected.

7)☒ Claim(s) *3,6,7,11,14,16,17,20,23,24,26,30 and 33-37* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2,3*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Status of the Claims*

Claims 1, 2, 4, 5, 9, 12, 13, 15, 18, 19, 21, 22, 25, 28, 31, 32, 41 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Coyle.

Claims 8, 10, 27, 29 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coyle in view of Sivakumar et al.

Claims 3, 6, 7, 11, 14, 16, 17, 20, 23, 24, 26, 30 and 33-37 are objected to.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4, 5, 9, 12, 13, 15, 18, 19, 21, 22, 25, 28, 31, 32, 41 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Coyle.

Regarding claim 1:

Coyle teaches creating a plurality of test executive sequences in response to user input in col. 2 lines 49-50, col. 2 lines 60-64 and col. 6 lines 14-47.

Coyle teaches wherein each test executive sequence maps to a sub-component of the system and is operable to test the respective sub-component, wherein the plurality of test executive sequences are configured to execute according to a hierarchy

corresponding to the hierarchy of sub-components in Fig. 2 and col. 4 line 48-col. 5 line 29.

Coyle teaches calling a first test executive sequence to test a first sub-component of a first level in the hierarchy, wherein the first level is not the top level of the hierarchy in Fig. 2 and col. 4 line 48-col. 5 line 29. The diagnostic test starts from the lowest level of the hierarchy.

Coyle teaches executing the first test executive sequence without executing test executive sequences that map to sub-components above the first sub-component in the hierarchy in Fig. 2 and col. 4 line 48-col. 5 line 29. The diagnostic test starts from the lowest level of the hierarchy and no tests are run before the lowest level test.

Coyle teaches wherein said executing the first test executive sequence tests the first sub-component in col. 5 lines 4-29.

Regarding claim 2:

Coyle teaches wherein said executing the first test executive sequence comprises, for test executive sequences that map to sub-components above the first sub-component in the hierarchy, executing only setup portions of the test executive sequences that map to sub-components above the first sub-component in the hierarchy in col. 5 lines 8-10. Accessing the ROM is equivalent to running setup ports for the all the test executive sequences.

Regarding claim 4:

Coyle teaches executing only a portion of one or more test executive sequences that map to sub-components above the first sub-component in the hierarchy, for purposes of setting up data used in the first test executive sequence in col. 5 lines 8-10.

Regarding claim 5:

Coyle teaches wherein said executing only a portion of one or more test executive sequences that map to sub-components above the first sub-component in the hierarchy does not include performing functional testing of the sub-components above the first sub-component in the hierarchy in col. 5 lines 8-10 and line 15. The functional test of the ROM is not performed when the setup is performed.

Regarding claim 9:

Coyle teaches wherein said calling the first test executive sequence is performed in response to user input requesting to call the first test executive sequence col. 2 lines 49-50, col. 2 lines 60-64 and col. 6 lines 14-47.

Regarding claim 12:

Coyle teaches creating a plurality of test executive sequences in response to user input in col. 2 lines 49-50, col. 2 lines 60-64 and col. 6 lines 14-47.

Coyle teaches wherein each test executive sequence maps to a sub-component of the system and is operable to test the respective sub-component, wherein the plurality of test executive sequences are configured to execute according to a hierarchy corresponding to the hierarchy of sub-components in Fig. 2 and col. 4 line 48-col. 5 line 29.

Coyle teaches calling a first test executive sequence to test a first sub-component of a first level in the hierarchy, wherein the first level is not the top level of the hierarchy in Fig. 2 and col. 4 line 48-col. 5 line 29. The diagnostic test starts from the lowest level of the hierarchy.

Coyle teaches executing only a portion of one or more test executive sequences that map to sub-components above the first sub-component in the hierarchy, for purposes of setting up data used in the first test executive sequence, after said calling in col. 5 lines 8-10 and line 15.

Coyle teaches executing the first test executive sequence without executing test executive sequences that map to sub-components above the first sub-component in the hierarchy in Fig. 2 and col. 4 line 48-col. 5 line 29. The diagnostic test starts from the lowest level of the hierarchy and no tests are run before the lowest level test.

Coyle teaches wherein said executing the first test executive sequence tests the first sub-component in col. 5 lines 4-29.

Regarding claim 13:

Coyle teaches wherein said executing only a portion of one or more test executive sequences that map to sub-components above the first sub-component in the hierarchy comprises executing only setup portions of the test executive sequences that map to sub-components above the first sub-component in the hierarchy in col. 5 lines 8-10. Accessing the ROM is equivalent to running setup ports for the all the test executive sequences.

Regarding claim 15:

Coyle teaches wherein said executing only a portion of one or more test executive sequences that map to sub-components above the first sub-component in the hierarchy does not include performing functional testing of the sub-components above the first sub-component in the hierarchy in col. 5 lines 8-10 and line 15. The functional test of the ROM is not performed when the setup is performed.

Regarding claim 18:

Coyle teaches creating a plurality of test executive sequences in response to user input in col. 2 lines 49-50, col. 2 lines 60-64 and col. 6 lines 14-47.

Coyle teaches wherein each test executive sequence maps to a sub-component of the system and is operable to test the respective sub-component, wherein the plurality of test executive sequences are configured to execute according to a hierarchy in Fig. 2 and col. 4 line 48-col. 5 line 29.

Coyle teaches calling a first test executive sequence at a first level in the hierarchy to test a first sub-component, wherein the first level is not the top level of the hierarchy in Fig. 2 and col. 4 line 48-col. 5 line 29.

Coyle teaches executing the first test executive sequence without executing test executive sequences above the first level in the hierarchy in Fig. 2 and col. 4 line 48-col. 5 line 29. The diagnostic test starts from the lowest level of the hierarchy and no tests are run before the lowest level test.

Coyle teaches wherein said executing the first test executive sequence tests the first sub-component in Fig. 2 and col. 4 line 48-col. 5 line 29.

Regarding claim 19:

Coyle teaches executing only a portion of one or more test executive sequences above the first level in the hierarchy, for purposes of setting up data used in the first test executive sequence in col. 5 lines 8-10.

Regarding claim 21:

Coyle teaches creating a plurality of test executive sequences in response to user input in col. 2 lines 49-50, col. 2 lines 60-64 and col. 6 lines 14-47.

Coyle teaches wherein each test executive sequence maps to a sub-component of the system and is operable to test the respective sub-component, wherein the plurality of test executive sequences are configured to execute according to a hierarchy in Fig. 2 and col. 4 line 48-col. 5 line 29.

Coyle teaches calling a first test executive sequence to test a first sub-component of a first level in the hierarchy, wherein the first level is not the top level of the hierarchy in Fig. 2 and col. 4 line 48-col. 5 line 29. The diagnostic test starts from the lowest level of the hierarchy.

Coyle teaches executing only a portion of one or more test executive sequences that map to sub-components above the first sub-component in the hierarchy after said calling in col. 5 lines 8-10 and line 15.

Coyle teaches executing the first test executive sequence after said executing only a portion of one or more test executive sequences above the first level in the hierarchy in Fig. 2 and col. 4 line 48-col. 5 line 29. The diagnostic test starts from the lowest level of the hierarchy and no tests are run before the lowest level test.

Coyle teaches wherein said executing the first test executive sequence tests the first sub-component in col. 5 lines 4-29.

Regarding claim 22:

Coyle teaches wherein said executing only a portion of one or more test executive sequences above the first level in the hierarchy is performed for purposes of setting up data used in the first test executive sequence in col. 5 lines 8-10.

Regarding claim 25:

Coyle teaches wherein said executing only a portion of one or more test executive sequences above the first level in the hierarchy does not include performing functional testing of the sub-components above the first level in the hierarchy in col. 5 lines 8-10 and line 15. The functional test of the ROM is not performed when the setup is performed.

Regarding claim 28:

Coyle teaches wherein said calling the first test executive sequence is performed in response to user input requesting to call the first test executive sequence in col. 2 lines 49-50, col. 2 lines 60-64 and col. 6 lines 14-47.

Regarding claim 31:

Coyle teaches creating a plurality of test executive sequences in response to user input, wherein each test executive sequence comprises a plurality of test executive steps in col. 4 line 48-col. 5 line 29.

Coyle teaches hierarchically calling a first test executive sequence from the plurality of test executive sequence in col. 4 line 48-col. 5 line 29.

Coyle teaches hierarchically executing the first test executive sequence in response to said hierarchically calling the first test executive sequence in col. 4 line 48-col. 5 line 29.

Regarding claim 32:

Coyle teaches wherein said hierarchically calling the first test executive sequence comprises specifying a hierarchical path to the first test executive sequence, wherein the hierarchical path specifies a hierarchical path of one or more test executive sequences from the plurality of test executive sequences; wherein said hierarchically executing the first test executive sequence comprises executing the first test executive sequence from the context of the hierarchical path of test executive sequences in col. 4 line 48-col. 5 line 29.

Regarding claim 41:

Coyle teaches creating a chain of test executive sequences in response to user input, wherein the chain of test executive sequences includes one top-level test executive sequence and one or more non-top-level test executive sequences in col. 2 lines 49-50, col. 2 lines 60-64, col. 4 line 48-col. 5 line 29 and col. 6 lines 14-47.

Coyle teaches and executing a first non-top-level test executive sequence directly, without executing the top-level test executive sequence in col. 4 line 48-col. 5 line 29.

Coyle teaches wherein the first non-top-level test executive sequence is executable to test a portion of the system in col. 4 line 48-col. 5 line 29.

Regarding claim 42:

Coyle teaches executing at least a portion of one or more test executive sequence(s) above the first non-top-level test executive sequence in the chain, for setting up data used by the first non-top-level test executive sequence in col. 5 lines 8-10.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 8, 10, 27, 29 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coyle in view of Sivakumar et al.

Regarding claims 8, 10, 27, 29 and 43:

The teachings of Coyle are outlined above.

Coyle does not explicitly teach displaying the test hierarchy in a graphical user interface. Coyle does, however, teach selecting a test sequence using software programs.

Sivakumar teaches displaying the test hierarchy in a graphical user interface in Figs. 2-4.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the GUI of Sivakumar with the test selection of Coyle.

One of ordinary skill in the art at the time of invention would have been motivated to combine the teachings because Coyle expresses a need for software programs used to make the test selection. Sivakumar meets the expressed need of Coyle in Figs. 2-4 and col. 3 lines 21-24.

***Allowable Subject Matter***

Claims 3, 6, 7, 11, 14, 16, 17, 20, 23, 24, 26, 30 and 33-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Prior art was not found that explicitly teaches or fairly suggests wherein the setup portions are operable to set variable values as outlined in claims 3, 14, 20, 24, 33, 35 and 37. Prior art was not found that explicitly teaches or fairly suggests executing a portion of higher level test executives for purposes of initializing a hardware device as outlined in claims 6, 16 and 23. Prior art was not found that explicitly teaches or fairly suggests wherein each test executive sequence includes a setup group of steps and a main group of steps as outlined in claims 7, 17, 26 and 34. Prior art was not found that explicitly teaches or fairly suggests wherein said calling the first test executive sequence

is performed in response to an application programming interface (API) call as outlined in claims 11 and 30. Prior art was not found that explicitly teaches or fairly suggests wherein the test hierarchy includes a first test executive sequence operable to call a second test executive sequence and executing the second test executive sequence without executing the first test executive sequence, wherein said executing the second test executive sequence comprises utilizing data from the first test executive sequence as outlined in claim 38. Prior art was not found that explicitly teaches or fairly suggests receiving user input indicating a desire to propagate the first local variable to a subsequence of the first test executive sequence as outlined in claim 44.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art not relied upon contains elements of the instant claims and/or represents a current state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc M Duncan whose telephone number is 703-305-4622. The examiner can normally be reached on M-T and TH-F 6:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on 703-305-9713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

md

ROBERT BEAUSOLIEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100